Patent claims

1. A stabilized liquid preparation comprising:

a. a protease or its proenzyme, which activates blood coagulation factor VII;

b. at least one compound selected from the group consisting of ornithine, diaminopimelic acid, agmatine, creatine, guanidinoacetic acid, acetylornithine, citrulline, argininosuccinic acid, tranexamic acid, and ε-aminocaproic acid or their salts and derivatives; and

c. a pH between 2.0 and 8.0.

2. The stabilized liquid preparation of claim 1, which additionally comprises at least one ionic detergent.

3. The stabilized liquid preparation of claim 1, which additionally comprises at least one nonionic detergent.

4. The stabilized liquid preparation of claim 2, wherein the ionic detergent is present in an amount ranging from 0.001 to 0.5 percent by weight of the liquid preparation.

5. The stabilized liquid preparation of claim 3, wherein the nonionic detergent is present in an amount ranging from 0.001 to 0.5 percent by weight of the liquid preparation.

6. The stabilized liquid preparation of claim 1, wherein the pH is between 2.5 and 6.8.

7. The stabilized liquid preparation of claim 1, wherein the pH is between 3.5 and 6.8.

8. The stabilized liquid preparation of claim 1, wherein the liquid preparation additionally comprises:

a. at least one detergent;

b. at least one sugar;

c. at least one amino acid; ~~and optionally~~

~~d. at least one compound capable of calcium ion complexation.~~

9. The stabilized liquid preparation of claim 8, wherein the detergent is at least one ionic detergent.

10. The stabilized liquid preparation of claim 8, wherein the detergent is at least one nonionic detergent.

11. The stabilized liquid preparation of claim 8, wherein the detergent is present in an amount from 0.001 to 0.5 percent by weight of the liquid preparation.

12. The stabilized liquid preparation of claim 8, wherein the at least one sugar is selected from glucose, arabinose, and mannose.

13. The stabilized liquid preparation of claim 8, wherein the at least one amino acid is selected from arginine, lysine, and glycine.

14. The stabilized liquid preparation of claim 1, wherein the ionic strength of the liquid preparation is adjusted to greater than 10 mSi by the addition of a salt.

15. The stabilized liquid preparation of claim 8, wherein the ionic strength of the liquid preparation is adjusted to greater than 10 mSi by the addition of a salt.

16. The stabilized liquid preparation of claim 1, wherein the protease or its proenzyme is in lyophilized form.

17. The stabilized liquid preparation of claim 8, wherein the protease or its proenzyme is in lyophilized form.

18. The stabilized liquid preparation of claim 1, wherein the protease or its proenzyme is present in an amount greater than 0.5 mg/ml.

19. The stabilized liquid preparation of claim 8, wherein the protease or its proenzyme is present in an amount greater than 0.5 mg/ml.

20. A pharmaceutical composition comprising the stabilized liquid preparation of claim 1.

21. A diagnostic reagent comprising the stabilized liquid preparation of claim 10.

22. A method of treating thromboembolic disorders by administering to a mammal, the pharmaceutical composition according to claim 20.

23. A method of treating complications associated with leg vein thrombosis, myocardial infarction, or stroke by administering to a mammal, the pharmaceutical composition according to claim 20.

24. A method of treating disorders caused by fibrin-containing thrombi by administering the pharmaceutical composition according to claim 20.